

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (CURRENTLY AMENDED): A method for managing expressions in a database system, the method comprising the computer-implemented steps of:
receiving an expression that identifies an event structure, a first set of one or more [[related]] conditions related to said event structure, and one or more [[related]] action[[s]] preferences related to said event structure, wherein said event structure defines an event that corresponds with said event structure by defining a set of attributes that describe features of a corresponding event;
storing said [[expression]] event structure, said first set of one or more conditions, and said action preferences in a table within in said database;
during a database session,
receiving a first event,
detecting that said first event is an occurrence of said event by [[detecting when an event occurs that complies]] comparing said first event to said event structure and determining that said first event corresponds with said event structure,
based on said detecting, selecting said first set of one or more conditions for evaluation against said first event, and
determining whether said occurrence of said first event satisfies any of said one or more conditions in said first set; and
if said occurrence of said first event satisfies any second set of one or more conditions, [[of]] from said first set [[conditions]], that is associated with one or more corresponding action[[s]] preferences, then causing performance of an action corresponding to said one or more corresponding action[[s]] preferences.
2. (CURRENTLY AMENDED): The method of Claim 1, ~~wherein receiving an expression comprises receiving an expression that identifies said event structure~~

defined with a set of attributes that describe features of a corresponding event, and wherein said event structure is represented as an object type in said database.

3. (ORIGINAL): The method of Claim 1, wherein receiving an expression comprises receiving an expression that identifies said event structure as a composite event structure having two or more primitive events that are each represented, in said database, as an object type embedded in said composite event structure.
4. (CURRENTLY AMENDED): The method of Claim 3, wherein detecting comprises detecting that said first event is an occurrence of a first primitive event of said primitive events by ~~detecting when an event occurs that complies with comparing said first event to a first primitive event structure of said composite event structure and determining that said first event corresponds with [[a]] said first primitive event structure of said composite event structure;~~
wherein determining comprises determining whether said occurrence of said first primitive event satisfies any of said one or more conditions in said first set; the method further comprising the computer-implemented steps of persistently storing results of said determining in said database, detecting an occurrence of a second primitive event of said primitive events by ~~detecting when an event occurs that complies with comparing a second event to a second primitive event structure of said composite event structure and determining that said second event corresponds with said second primitive event structure,~~ determining whether said occurrence of said second primitive event satisfies any of said one or more conditions in said first set, determining whether any of said one or more conditions in said first set are satisfied by both said occurrence of said first primitive event and whether any of said one or more conditions in said first set are satisfied by said occurrence of said second primitive event, and

wherein causing performance comprises, if said occurrence of said first primitive event satisfies one or more first conditions in said first set and said occurrence of said second primitive event satisfy any of satisfies one or more second conditions in said first set, of one or more conditions that wherein a set consisting of said one or more first conditions and said one or more second conditions have one or more corresponding action[[s]] preferences, then performing causing performance of an action corresponding to said one or more corresponding action[[s]] preferences.

5. (CURRENTLY AMENDED): The method of Claim 3, further comprising the computer-implemented steps of:
 receiving information that specifies a period for which an occurrence of a first primitive event of said two or more primitive events is valid before an occurrence of a second primitive event of said two or more primitive events occurs; and
 wherein determining comprises determining whether said occurrence of said first primitive event and said occurrence of said second primitive event satisfy any of said conditions in accordance compliance with said information.
6. (CURRENTLY AMENDED): The method of Claim 3, further comprising the computer-implemented steps of:
 receiving information that specifies an order in which to evaluate said conditions with respect to said primitive events; and
 wherein determining comprises determining, in said order according to said information, whether [[said conditions are satisfied by]] said occurrences of said first and second primitive events satisfy said conditions.
7. (ORIGINAL): The method of Claim 1, wherein receiving an expression comprises receiving an expression that identifies an event structure derived from structure of tables, in said database, that store data that represent event occurrences.
8. (CURRENTLY AMENDED): The method of Claim 7, wherein detecting that said first event is an occurrence of said event comprises detecting that said data

[[is changed]] underwent a change and that said change constitutes an occurrence of said event.

9. (CURRENTLY AMENDED): The method of Claim 1, wherein storing said expression in columns of a table comprises storing one or more conditions from said first set as an EXPRESSION data type in an EXPRESSION column of said a database table.
10. (CURRENTLY AMENDED): The method of Claim 1, wherein receiving an expression comprises receiving an expression that identifies a condition, from said first set, that is represented as a SQL query on said database.
11. (CURRENTLY AMENDED): The method of Claim 1, further comprising the computer-implemented step of:
receiving a modification, in the form of a SQL operation, to said first set of one or more conditions ~~of said expression~~.
12. (CURRENTLY AMENDED): The method of Claim 1, further comprising the computer-implemented step of:
during a database session, providing access to a database view that comprises a list of event occurrences that have been determined to satisfy any of said conditions from said first set,
a list of conditions from said first set that have been satisfied by event occurrences in said list of event occurrences, and
a list of action[[s]] preferences that correspond with conditions in said list of conditions.
13. (CURRENTLY AMENDED): The method of Claim 12, further comprising the computer-implemented step of:
in response to a request from a user of said database system, performing an operation [on] associated with said view.
14. (ORIGINAL): The method of Claim 13, wherein performing an operation comprises performing an operation to resolve a conflict among two or more

- conditions that have been satisfied by event occurrences in said list of event occurrences.
15. (CURRENTLY AMENDED): The method of Claim 13, wherein performing an operation comprises performing an operation that includes scheduling an action, from said list of action preferences, for performance outside of said database system.
16. (CURRENTLY AMENDED): The method of Claim 1, further comprising the computer-implemented steps of:
receiving information that specifies that the step of determining is to stop when
determining it is determined that said occurrence of said first event
satisfies said first set of one or more conditions; and
stopping determining whether said occurrence of said first event satisfies any of
said one or more conditions in said first set when determining it is
determined that said occurrence of said first event satisfies said first set of
one or more conditions.
17. (CURRENTLY AMENDED): The method of Claim 1,
wherein receiving an expression comprises receiving an expression that identifies
a temporal condition from said first set of one or more conditions;
wherein said temporal condition specifies that an associated action corresponding
to said of the one or more action[[s]] preferences is to be performed if a
second condition from said first set of conditions is satisfied by an
occurrence of an event, within a particular time after a first condition from
said first set of conditions is satisfied by an occurrence of an event; and
wherein determining comprises determining whether occurrences of events satisfy
said first and second conditions in accordance compliance with said
temporal condition.
18. (CURRENTLY AMENDED): The method of Claim 1,
wherein receiving an expression comprises receiving an expression that identifies
a negation condition from said first set of one or more conditions;

wherein said negation condition specifies that an associated action corresponding to said of the one or more action[[s]] preferences is to be performed if a second condition from said first set of conditions is not satisfied by an occurrence of an event within a particular time after a first condition from said first set of conditions is satisfied by an occurrence of an event; and wherein determining comprises determining whether occurrences of events satisfy said first and second conditions in accordance compliance with said negation condition.

19. (CURRENTLY AMENDED): The method of Claim 1, wherein receiving an expression comprises receiving an expression that identifies a group of conditions, from said first set of one or more conditions, that, when a particular number of conditions from said group of conditions is satisfied by one or more occurrences of events, triggers performance of an action corresponding to said one or more corresponding action[[s]] preferences; wherein said particular number is less than a number of conditions in said group of conditions; and wherein determining comprises determining whether one or more occurrences of events satisfy said particular number of conditions from said group of conditions.
20. (CURRENTLY AMENDED): The method of Claim 1, wherein receiving an expression comprises receiving an expression that identifies a group of sequenced conditions from said first set of one or more conditions; wherein said group of sequenced conditions specifies that an associated action corresponding to said of the one or more action[[s]] preferences is to be performed if said conditions from said group of sequenced conditions are satisfied in a particular sequence by one or more occurrences of events; and

wherein determining comprises determining whether one or more occurrences of events satisfy said conditions from said group of sequenced conditions in said particular sequence.

21. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 1.
22. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 2.
23. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 3.
24. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 4.
25. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 5.
26. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 6.

27. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 7.
28. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 8.
29. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 9.
30. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 10.
31. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 11.
32. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 12.
33. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 13.

34. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 14.
35. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 15.
36. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 16.
37. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 17.
38. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 18.
39. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 19.
40. (CURRENTLY AMENDED): A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 20.

41. (CURRENTLY AMENDED): A system comprising:
- means for receiving an expression that identifies an event structure, a first set of one or more [[related]] conditions related to said event structure, and one or more [[related]] action[[s]] preferences related to said event structure, wherein said event structure defines an event that corresponds with said event structure by defining a set of attributes that describe features of a corresponding event;
- means for storing said [[expression]] event structure, said first set of one or more conditions, and said action preferences in a table within in said database;
- means for receiving a first event,
- means for detecting, during a database session, that said first event is an occurrence of said event by [[detecting when an event occurs that complies]] comparing said first event to said event structure and determining that said first event corresponds with said event structure,
- means for selecting, based on said detecting, said first set of one or more conditions for evaluation against said first event, and
- means for determining, during said database session, whether said occurrence of said first event satisfies any of said one or more conditions in said first set;
- and
- means for causing performance of an action corresponding to said one or more corresponding action[[s]] preferences if said occurrence of said first event satisfies any second set of one or more conditions, [[of]] from said first set [[conditions]], that is associated with one or more corresponding action[[s]] preferences.